



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/574,223

08/16/2006

Daniel Hendrix

016906-0479

2150

22428 7590 03/02/2010
FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

MCKINNON, TERRELL L

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

03/02/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,223	Applicant(s) HENDRIX, DANIEL	
	Examiner TERRELL L. MCKINNON	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/31/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1-8 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Rossin et al. (US 7,032,577)

Re. Cl. 1, Rossin discloses a heat exchanger unit with tubes (22 and 23) through which charge air can flow and comprising air boxes (20) which are connected to the tubes and have a charge air inlet and a charge air outlet, characterized in that some of the tubes can be closed (abstract and Figs. 2-6).

Re. Cl. 2, Rossin discloses wherein some of the tubes can be closed by a shut-off member (27, 41, 61, 74 and Figs. 2-6).

Re. Cl. 3, Rossin discloses the shut-off member (27, 41, 61 and 74) is arranged in the charge air box (20).

Re. Cl. 4, Rossin discloses the shut-off member (Figs. 2-6) is arranged in the region of the charge air inlet.

Re. Cl. 5, Rossin discloses the shut-off member is arranged in the region of the charge air outlet (Figs. 6-6b and col. 5; 45 to col. 6; line 5).

Re. Cl. 6, Rossin discloses wherein the shut-off member is designed as a pivotable flap with a laterally arranged pivot axis.

Re. Cl. 7, Rossin discloses wherein the tubes (22 and 23) form a row R and have tube ends which are accommodated a tube plate (Figs. 2-6) of the air box (20), and in that the pivot axis is arranged in the direction of the tube row (R) and next to the tube ends in the region of the tube plate.

Re. Cl. 8, Rossin discloses wherein the flap is in particular of approximately rectangular design (27, Fig. 2) and, in the closure position, rests on the tube ends.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 20-21 are rejected under 35 U.S.C. 102(a) as being anticipated by Ritz et al. (EP 1,336,736).

Re. Cls. 20 and 21, Ritz discloses a heat exchanger unit with tubes through which charge air can flow and comprising air boxes (12) which are connected to the tubes and have a charge air inlet and a charge air outlet (Figs. 1-5), characterized in that one charge air box is divided by a transverse partition (147) into an entry chamber and an exit chamber which respectively have the charge air inlet and the charge air outlet, in that the other charge air box is designed as a deflecting box and in that a shut-

Art Unit: 3744

off member (148) is arranged in the transverse partition; and the shut-off member is designed as a flap, in particular as a round pivoting flap with a central pivot axis

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 3744

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 9, 11 and 14-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Rossin et al. (US 7,032,577) in view of Kurohori et al. (JP 58-62495).

Re. Cls. 9, 11, 14, 15, 16 and 18, Rossin fails to disclose wherein the flap has at least one cutout for one or more nonclosable tubes; design as a rotary slide, the flap being design a round flap with lateral or central pivot axis; half-round flap, covering sections for individually tubes, and some of the tubes can be completely closed.

However, Kurohori teaches an adjustable round, half round flap (15, 17, and 18) with central pivot axis capable of blocking some tubes (Figs. 2-3).

Given the teachings of Kurohori, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat exchanger of Rossin wherein the flap has at least one cutout for one or more nonclosable tubes; design as a rotary slide, the flap being design a round flap with lateral or central pivot axis; half-round flap, covering sections for individually tubes, and some of the tubes can be completely closed.

Doing so would provide different arrangements for blocking or allowing fluid flow through the heat exchanger.

8. Claims 10, 12-13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rossin et al. (US 7,032,577) in view of Kurohori et al. (JP 58-62495), as applied to claims above, and further in view of Rinckel (US 6,141,961).

Re. Cls.10, 12-13 and 19, Rossin fails to disclose wherein a partition is arranged in the air box and divides the air box into two chambers in a funnel shape manner with two flow cross sections and in that one flow cross section can be closed by a round flap shut-off member with a central pivot axis; and wherein all the tubes can be closed.

However, Rinckel teaches a partition (27) is arranged in the air box (26) and divides the air box into two chambers (16 and 18) with two flow cross sections and in that one flow cross section can be closed by a round the shut-off flap (32), wherein all the tubes can be closed (Figs. 1-10).

Given the teachings of Rinckel, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat exchanger of Rossin wherein a partition is arranged in the air box and divides the air box into two chambers in a funnel shape manner with two flow cross sections and in that one flow cross section can be closed by a round flap shut-off member with a central pivot axis; and wherein all the tubes can be closed.

Doing so would provide a double cooling heat exchange chamber for blocking or allowing fluid flow through the heat exchanger.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references cited on the PTO892 discloses related limitations of the applicant's claimed and disclosed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TERRELL L. MCKINNON whose telephone number is (571)272-4797. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

February 28, 2010
/Terrell L Mckinnon/
Primary Examiner, Art Unit 3744